

CLAIMS

We claim:

1 1. A method for identifying unending transactions, the method comprising:
2 monitoring an interface;
3 determining whether a transaction has timed out; and
4 flagging the transaction if it is determined that the transaction has timed out.

1 2. The method of claim 1, wherein monitoring an interface comprises monitoring
2 a point-to-point (P2P) link network.

1 3. The method of claim 1, wherein monitoring an interface comprises monitoring
2 a point-to-point (P2P) link network of a register transfer language (RTL) simulator.

1 4. The method of claim 1, wherein determining whether a transaction has timed
2 out comprises consulting a pending transaction list.

1 5. The method of claim 4, wherein determining whether a transaction that has
2 timed out further comprises identifying a recorded time out time and determining if that time
3 has been exceeded.

1 6. The method of claim 1, wherein flagging the transaction comprises failing a
2 case so as to place the transaction in a category of cases that are to be debugged.

1 7. The method of claim 1, wherein flagging the transaction comprises generating
2 debug information that provides details of the transaction including at least one of an identity
3 of the transaction, a time failure to complete was determined, and an action that was missing
4 for the transaction to complete.

1 8. The method of claim 1, wherein flagging the transaction comprises presenting
2 information contained in a header of a received packet to a user.

1 9. The method of claim 1, further comprising removing the transaction from a
2 pending transaction list.

1 10. A method for identifying unending transactions, the method comprising:
2 monitoring an interface;
3 identifying a packet that arrives on the interface;
4 determining whether the packet pertains to a transaction contained in a pending
5 transaction list; and
6 determining when the transaction should be completed if the transaction is not
7 contained in the pending transaction list.

1 11. The method of claim 10, wherein monitoring an interface comprises
2 monitoring a point-to-point (P2P) link network.

1 12. The method of claim 10, wherein monitoring an interface comprises
2 monitoring a point-to-point (P2P) link network of a register transfer language (RTL)
3 simulator.

1 13. The method of claim 10, wherein determining whether the packet pertains to a
2 transaction contained in a pending transaction list comprises extracting a transaction
3 identifier (ID) from the packet and determining whether the transaction ID is contained in the
4 pending transaction list.

1 14. The method of claim 10, wherein determining when the transaction should be
2 completed comprises inputting a packet arrival time and a transaction type into a time-out
3 function.

1 15. The method of claim 10, wherein determining when the transaction should be
2 completed comprises using a packet arrival time and a transaction type to look up a time out
3 time in a table.

1 16. The method of claim 10, further comprising recording a time out time in the
2 pending transaction list for the transaction to which the packet pertains.

1 17. A system for identifying unending transactions, the system comprising:
2 means for monitoring an interface;
3 means for identifying packets that arrive on the interface;
4 means for determining when a transaction should be completed; and
5 means for determining when a transaction has timed out.

1 18. The system of claim 17, wherein the means for monitoring an interface
2 comprise means for monitoring a point-to-point (P2P) link network.

1 19. The system of claim 17, wherein the means for determining when a
2 transaction should be completed comprise a time-out function.

1 20. The system of claim 17, wherein the means for determining when a
2 transaction should be completed comprise a look up table.

1 21. The system of claim 17, wherein the means for determining when a
2 transaction has timed out comprise means for determining a time out time from a pending
3 transaction list using a transaction identifier (ID).

1 22. The system of claim 21, wherein the means for determining a time out time
2 comprise means for identifying a recorded time out time stored in the transaction list and
3 means for determining if that time has been exceeded.

1 23. The system of claim 17, further comprising means for flagging unending
2 transactions.

1 24. A virtual bus interface (VBI) stored on a computer-readable medium, the
2 virtual bus VBI comprising:

- 3 logic configured to monitor a point-to-point (P2P) interface;
- 4 logic configured to identify packets that arrive on the P2P interface;
- 5 logic configured to determine a time out time for a transaction to which a packet
- 6 pertains; and
- 7 logic configured to determine when a transaction has timed out.

1 25. The VBI of claim 24, wherein the logic configured to determine a time out
2 time comprises a time-out function.

1 26. The VBI of claim 24, wherein the logic configured to determine a time out
2 time comprises logic configured to look up times contained in a table.

1 27. The VBI of claim 24, wherein the logic configured to determine when a
2 transaction has timed out comprises logic configured to determine a time out time from a
3 pending transaction list using a transaction identifier (ID).

1 28. The VBI of claim 27, wherein the logic configured to determine a time out
2 time comprises logic configured to identify a recorded time out time stored in the transaction
3 list and logic configured to determine if that time has been exceeded.

1 29. The VBI of claim 24, further comprising logic configured to flag unending
2 transactions.

1 30. A processor architecture verification system, comprising:

2 a register transfer language (RTL) simulator that simulates operation of a processor
3 and generates a first output in a first format, the RTL simulator including an interface;

4 a golden simulator that simulates operation of the processor and generates a second
5 output in a second format;

6 a translator that translates at least one of the outputs for comparison with the other
7 output, the translator including a virtual bus interface (VBI) that comprises logic configured
8 to monitor a the RTL simulator interface, logic configured to determine a time out time for a
9 transaction to which a packet on the RTL simulator interface pertains, and logic configured to
10 determine when a transaction has timed out; and

11 a comparator that compares the first and second outputs after translation of the at least
12 one output.

1 31. The system of claim 30, wherein the logic configured to determine a time out
2 time comprises a time-out function.

1 32. The system of claim 30, wherein the logic configured to determine a time out
2 time comprises logic configured to look up times contained in a table.

1 33. The system of claim 30, wherein the logic configured to determine when a
2 transaction has timed out comprises logic configured to determine a time out time from a
3 pending transaction list using a transaction identifier (ID).

1 34. The system of claim 30, wherein the VBI further comprises logic configured
2 to flag unending transactions of the RTL simulator.